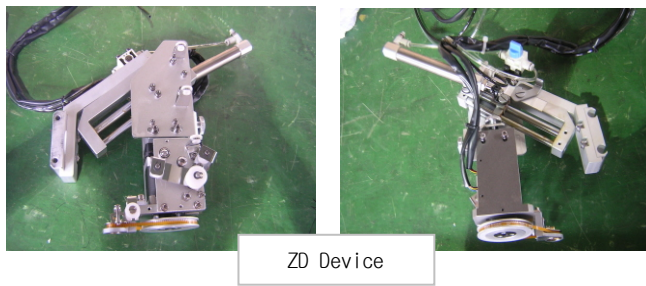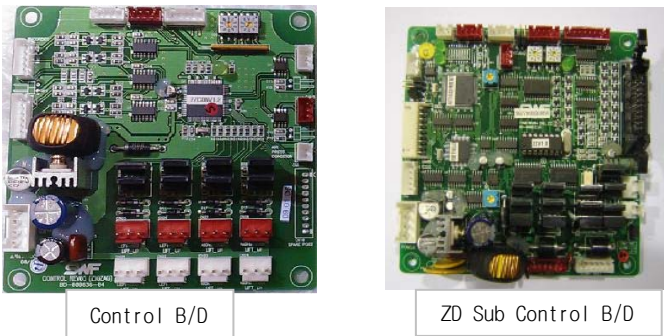# ZD10 Installation Manual

Contents

1. Check ZD10 Parts

2. Check Installation environment

3. Check Board Installation

4. Check Cable Connection

5. Check Air Hose

6. Check ZD10 Needle Bar

   1) Check Needle Upper / Drop Point

7. Check ZD10 DEVICE Installation

   1) Check Needle Position

   2) Check ZD Motor Synchronization
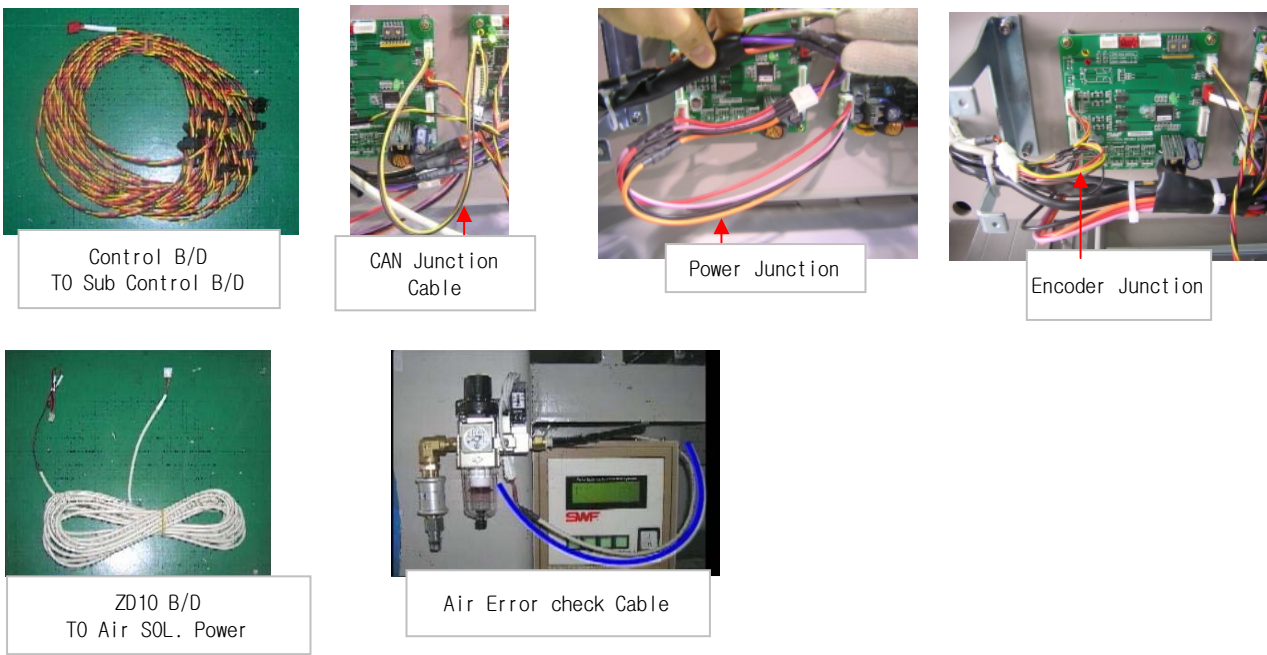
8. Embroidery TEST.
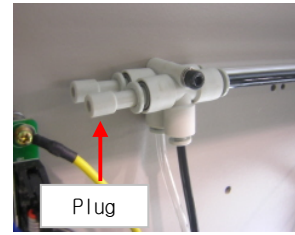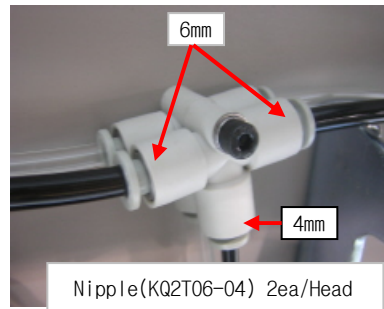
1 Check ZD10 Parts.

1) ZD10 Device

ZD Device

2) Boards

Control B/D

ZD Sub Control B/D

3) Cables

Control B/D
TO Sub Control B/D

CAN Junction
Cable

Power Junction

Encoder Junction

ZD10 B/D
TO Air SOL. Power

Air Error check Cable

4) Air Hose

Φ8 Hose (Filter Reg. TO
Air SOL.)

1. Φ6 Hose
2. Φ4 Hose

1. Φ6 Hose
2. Φ4 Hose

Filter Regulator

Nipple(KQ2T06-00)

Nipple(KQ2T06-04) 2ea/Head

Plug

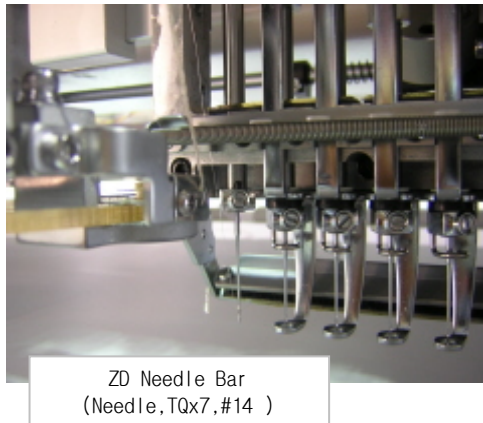Air SOLENOID

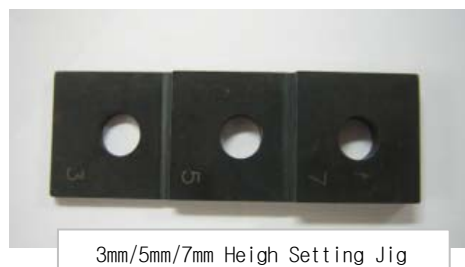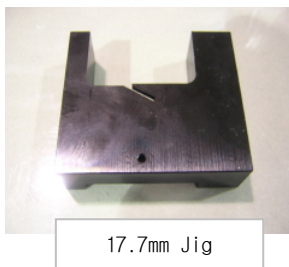5) ZD10 Needle & Needle Bar

ZD Needle Bar
(Needle,TQx7,#14)

ZD Needle
Bar

TQx7,#14
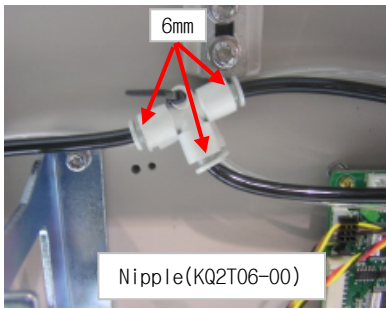
ZD10 Needle Length
① SB,DM,CE,K,E-Series
200.1mm
(GP-034102-33)
② D,TA,CA,SA-Series
195.1mm
(GP-034407-03)

6) Jig

17.7mm Jig

3mm/5mm/7mm Heigh Setting Jig

5mm, 11.8mm Jig

2 Check Installation environment

(1) Option Specification

 1) The type of Control B/D depends on whether SQ40I is intalled or not.

 - SQ40I is not installed : Used Control B/D only for ZD10

 - SQ40I & ZD10 installed : Used control B/D for both SQ40I & ZD10.

ZD10 Control B/D

ZD10&SQ40I Control B/D

(2) SMPS Specification for quantity (DC-800-2009-00000282)

1) SMPS quantity depends on option type.

1. Control Box 내 24V SMPS(PBA600F-24)

| Option Device	Multi E, K - Series				Multi SB - Series			Multi DH - Serires		
	15↓	16~26	27~29	30↑	26↓	27~29	30↑	30↓	30~40	
Without Option	1	2	2	3	2	2	3	2	3	
Single Type SQ30 or SQ30D	1	2	2	3	2	2	3	3	3	
Both Type SQ30 or SQ30D	1	2	2	3	2	2	3	3	3	
Single Type ZD10	1	2	2	3	2	2	3	3	3	
Single or Both Type SQ40i	2	2	2	3	2	2	3	3	3	
SQ30 or SQ30D + ZD10	2	2	2	3	2	2	3	3	3	
SQ40i + ZD10	2	2	3	3	2	3	3	3	3	

3 Check Board Installation

(1) Control B/D and Sub Control Board for ZD10

※ Modification(2008.1.22) : Sequin Lifting B/D needs only for ZD10 installation.

Modification (2008.2.28) : Control B/D includes function of Sequing Lifting B/D,

so don't need Sequin Lifting B/D only for ZD installation.
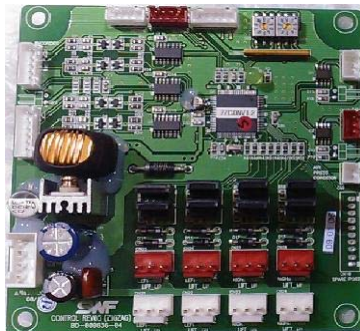
Jumper

Control B/D 1EA/M
(Matter, ZD10 Lifting Up when Sudden
Power Cut modified)
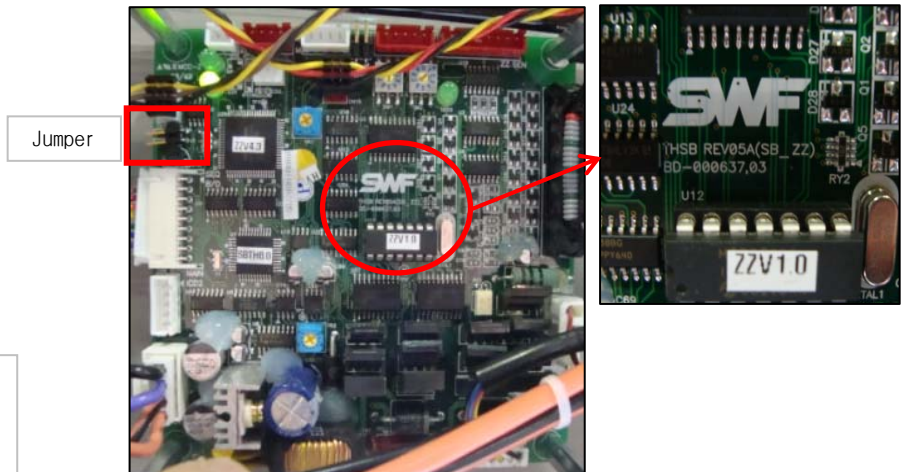
Sub Control B/D(THSB REV05A SB_ZZ) 1EA/H
(Head on/off Function)
※ Input Jumper Pin in Last head.
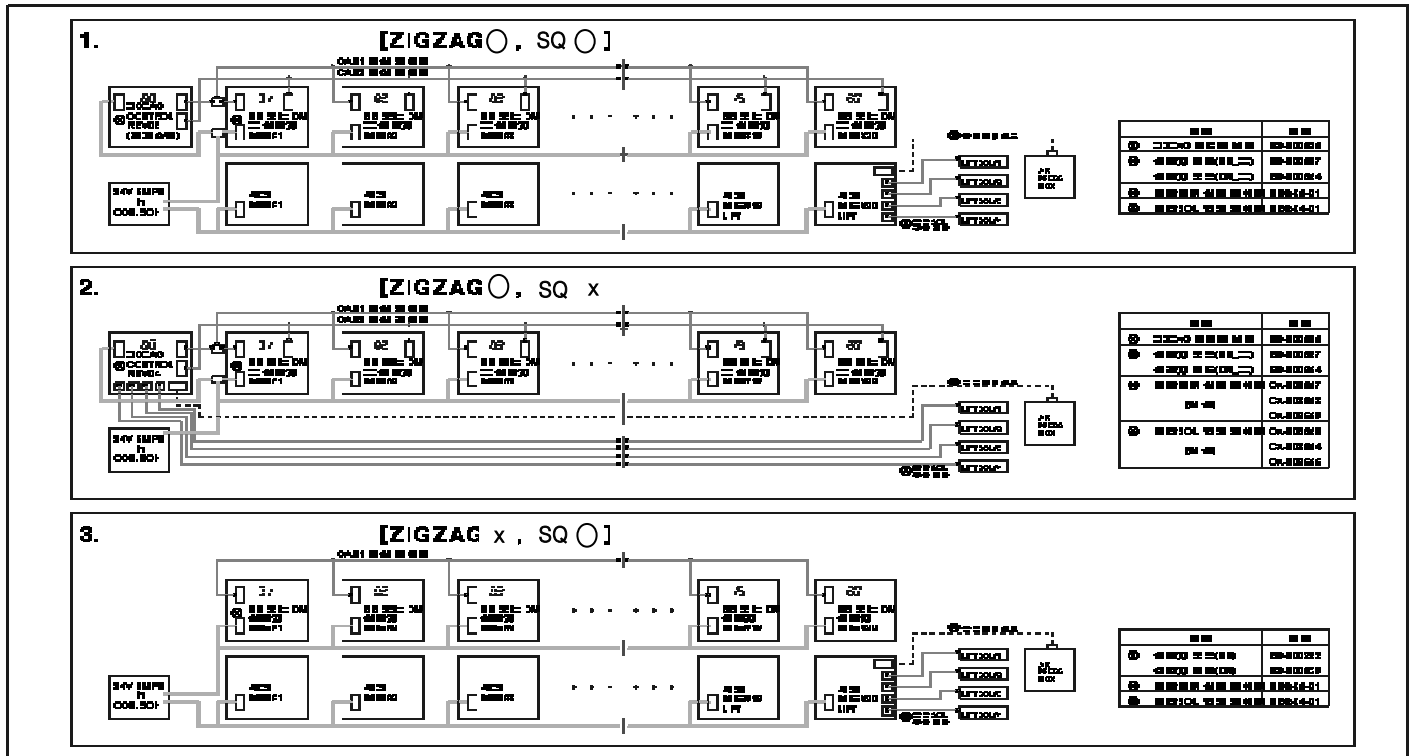(normal Head doesn't need)

4 Check Cable Connection

※ Modification(2008.1.22) : Sequin Lifting B/D needs only for ZD10 installation.

Modification (2008.2.28) : Control B/D includes function of Sequing Lifting B/D,

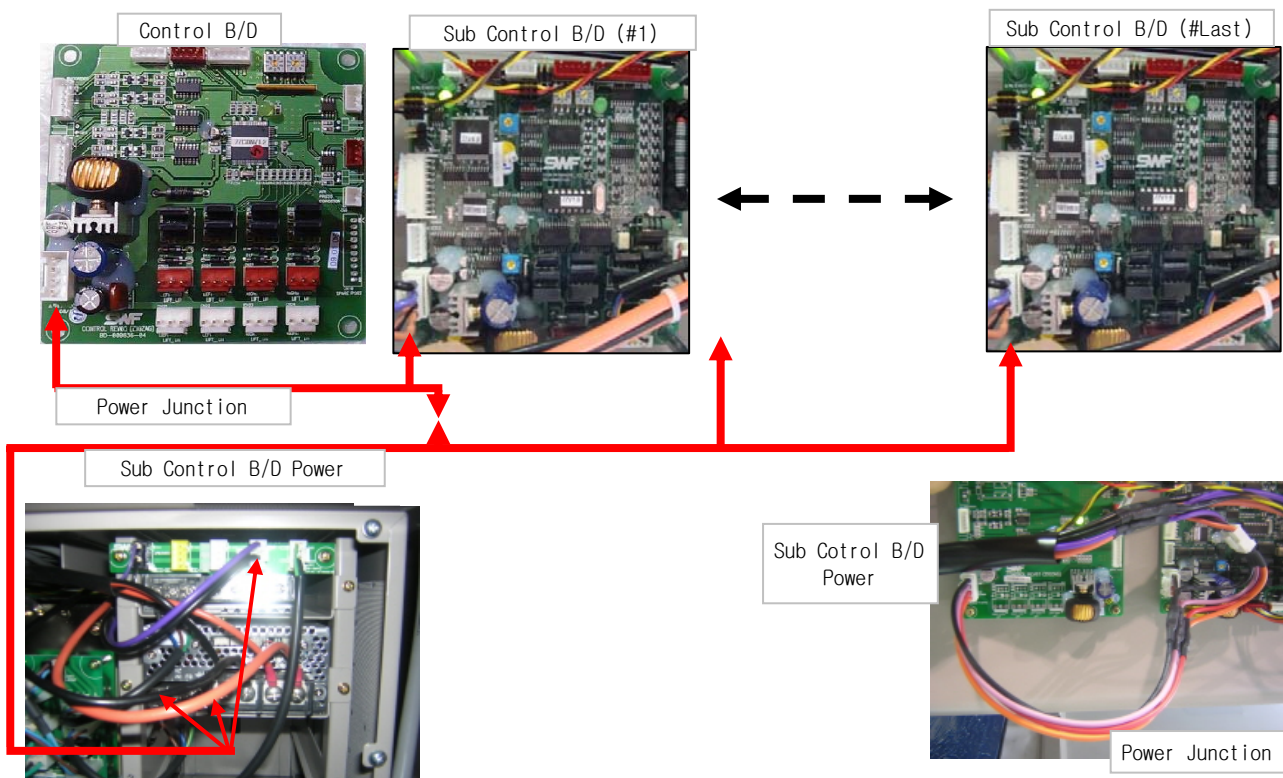so don't need Sequin Lifting B/D only for ZD installation.

※ Cable Connection depends on option type and need careness.
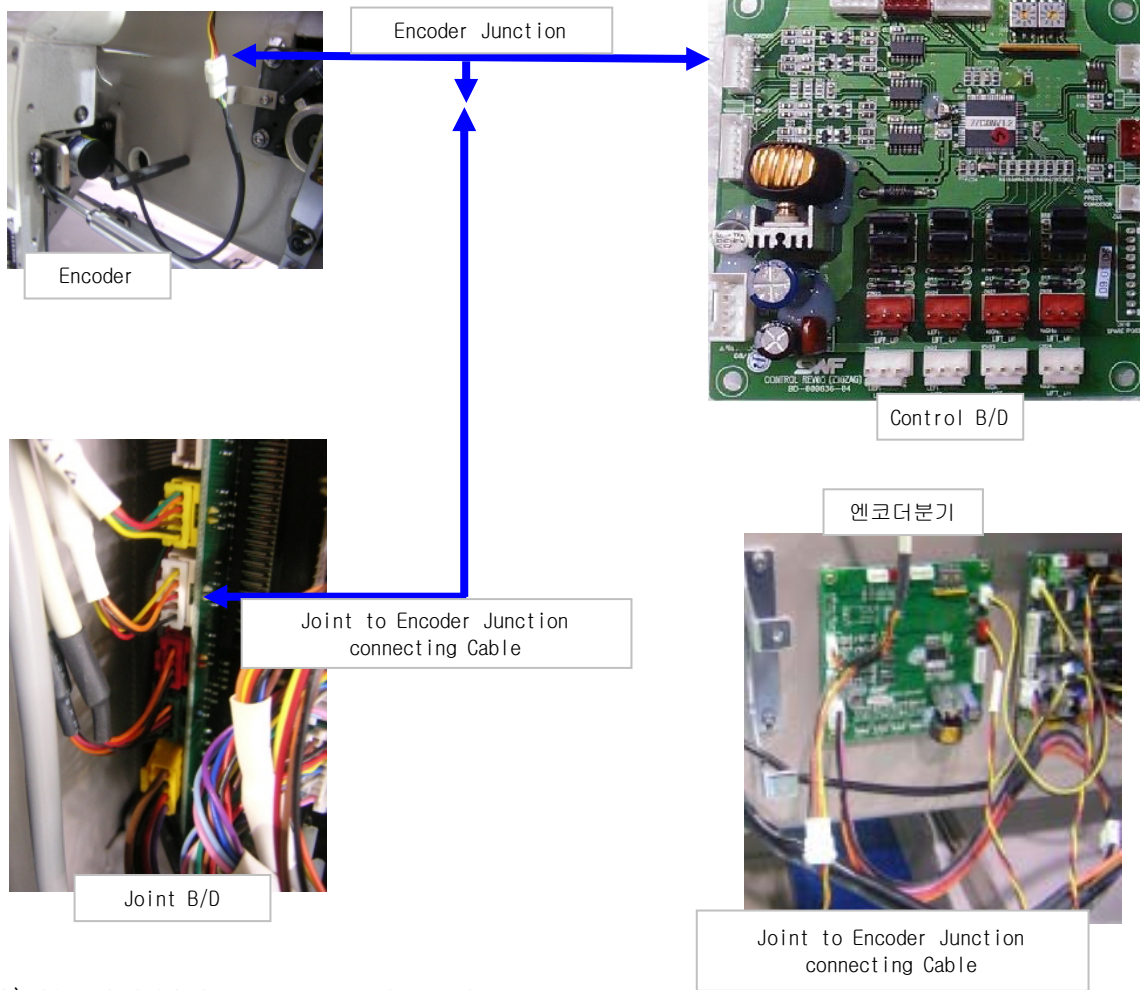
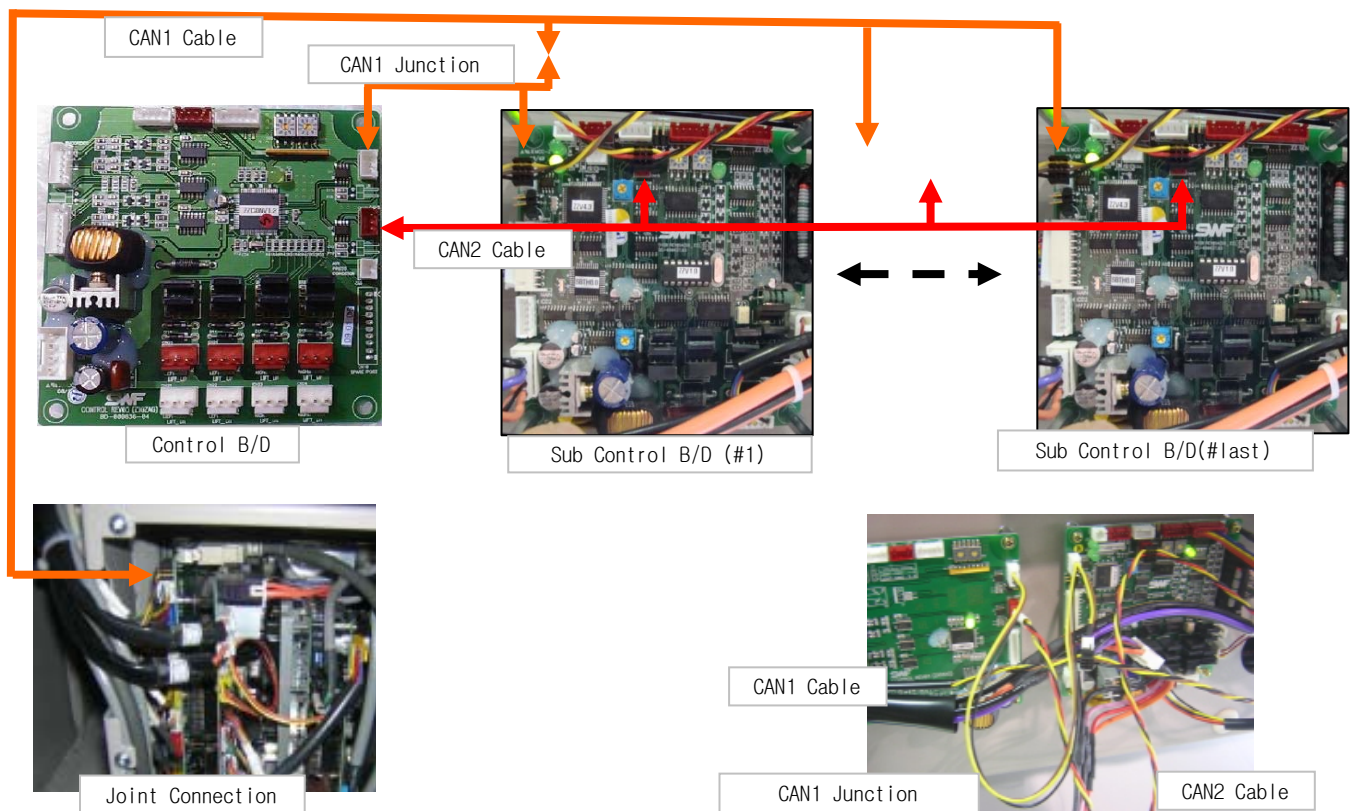(1) Calbe Connection Diagram
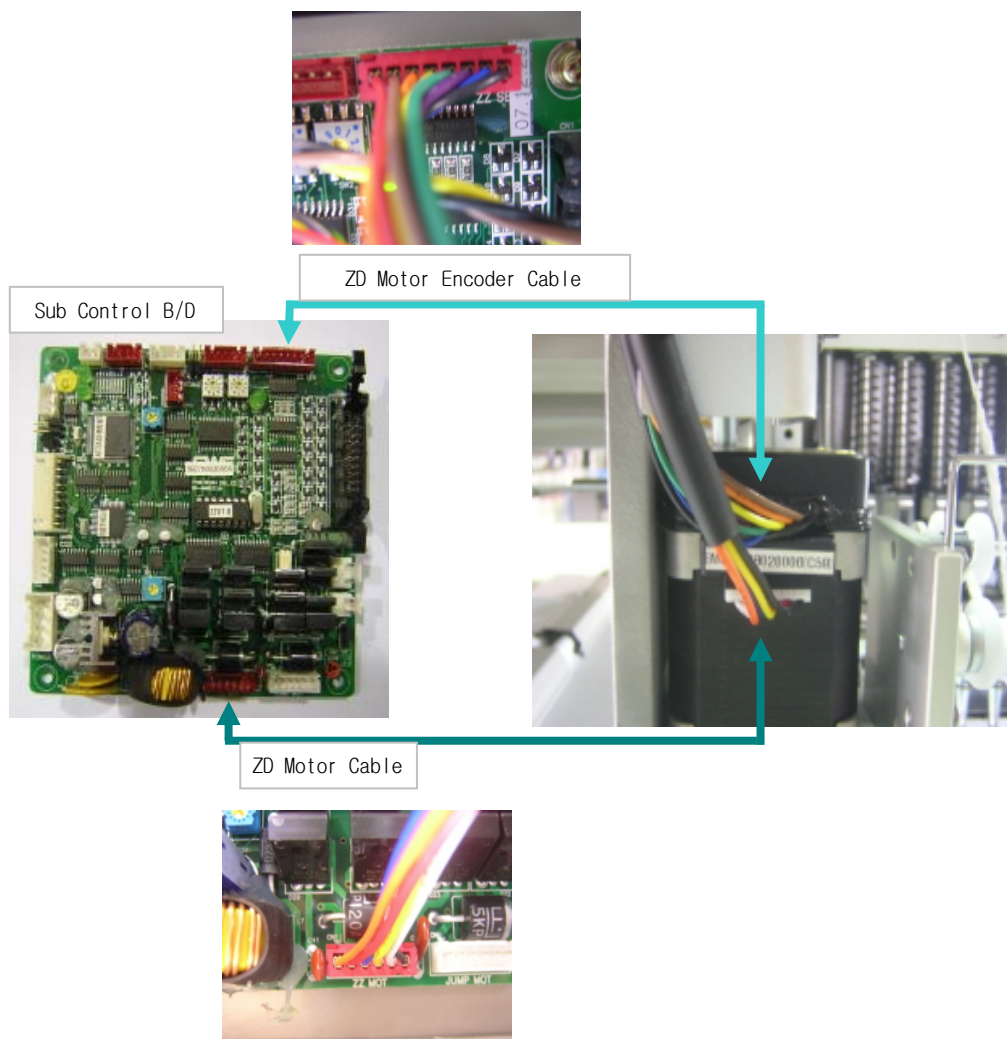

(2) Cable Connection

1) Check Power Cable Connection
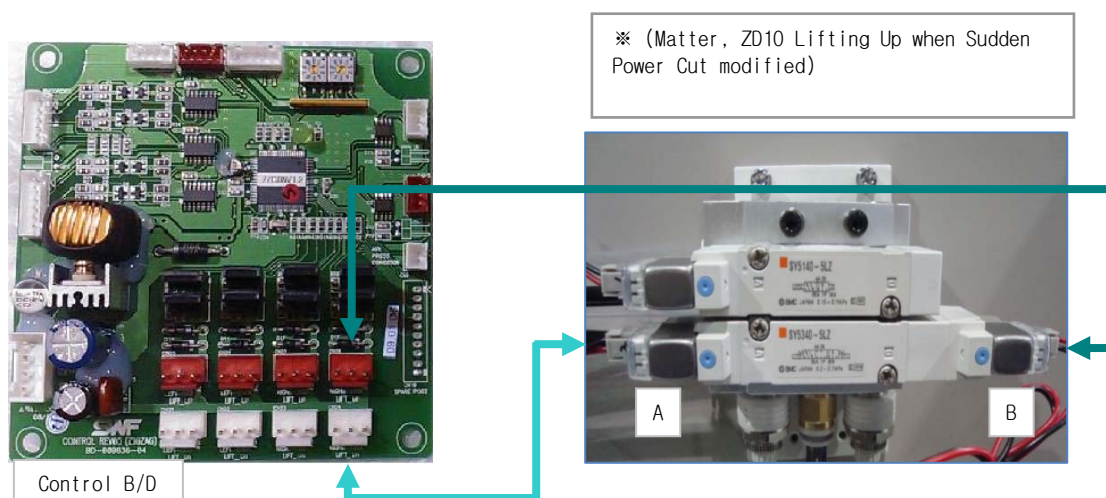
2) Check Encoder Joint Cable and Joint Connection

Encoder

Encoder Junction

Control B/D

Joint B/D

Joint to Encoder Junction connecting Cable

엔코더분기

Joint to Encoder Junction connecting Cable

3) CAN1 & CAN2 Communication Cable Connection

CAN1 Cable

CAN1 Junction

Control B/D

CAN2 Cable

Sub Control B/D (#1)

Sub Control B/D(#last)

Joint Connection

CAN1 Cable

CAN1 Junction

CAN2 Cable

4) Check ZD10 Device Cable Connection

ZD Motor Encoder Cable

Sub Control B/D

ZD Motor Cable

5) Check Sol. Power Cable Connection

※ (Matter, ZD10 Lifting Up when Sudden Power Cut modified)

A   B

Control B/D

```
-CONTROL REV05 (ZIGZAG)
-CONTROL REV04 (SQ40i_ZIGZAG)

                                              1. "LIFT_DN"  ──────►  SOL.  "A"

LEFT          LEFT          RIGHT         RIGHT               2. "LIFT_UP"  ──────►  SOL.  "B"
LIFT(ODD)_UP  LIFT(EVEN)_UP LIFT(ODD)_UP  LIFT(EVEN)_UP

LEFT          LEFT          RIGHT         RIGHT
LIFT(ODD)_DN  LIFT(EVEN)_DN LIFT(ODD)_DN  LIFT(EVEN)_DN

                                    A │ LIFT SOL#1 │ B
                                    A │ LIFT SOL#2 │ B
                                    A │ LIFT SOL#3 │ B
                  AIR PRESSER        A │ LIFT SOL#4 │ B
                  SOL.
```
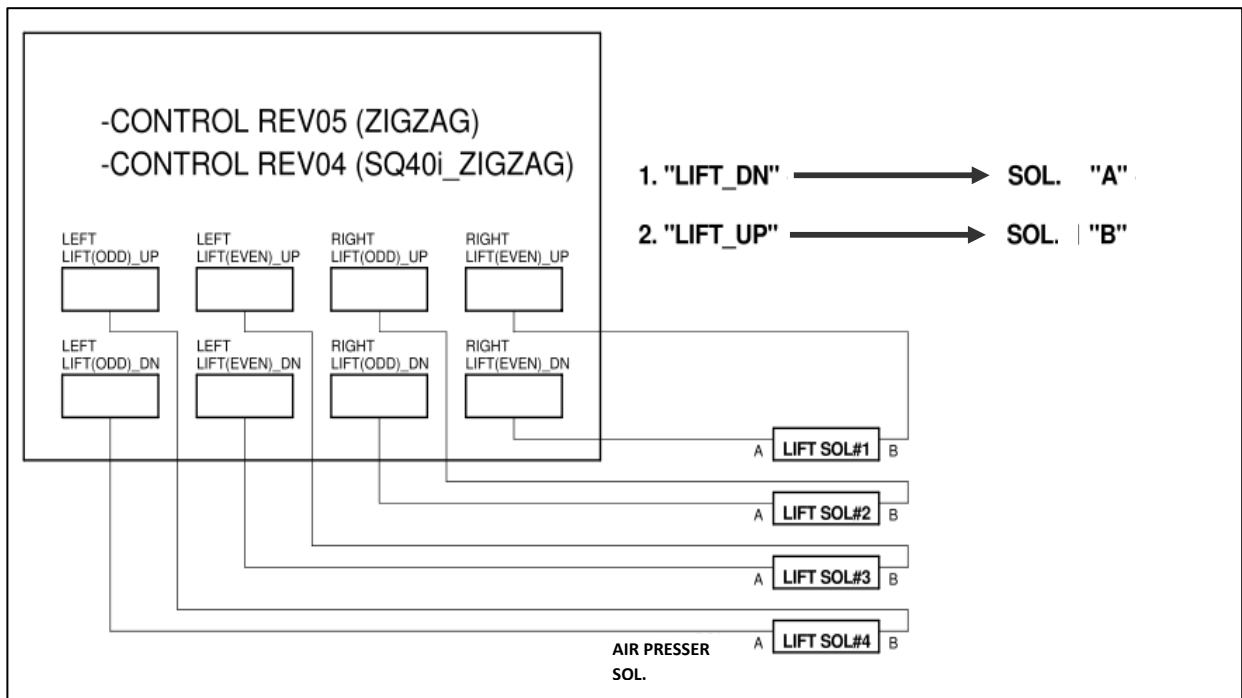
※ Sol. type (1P,2P,3P,4P) and quantity depend on option type and alternative fucntion,
 when installing, care about it.

※ Sol. type and Cable Quantity

	Sol.	Cable	
SINGLE-Type	1	2	
SINGLE-Type /	2	4	alternative
BOTH-Type	2	4	
BOTH-Type /	4	8	alternative

	Conection		Cable
LIFT SOL#1	RIGHT LIFT(ODD)_DN	A	1
	RIGHT LIFT(ODD)_UP	B	1
LIFT SOL#2	RIGHT LIFT(EVEN)_DN	A	1
	RIGHT LIFT(EVEN)_UP	B	1

6) Check Air Error Check Cable
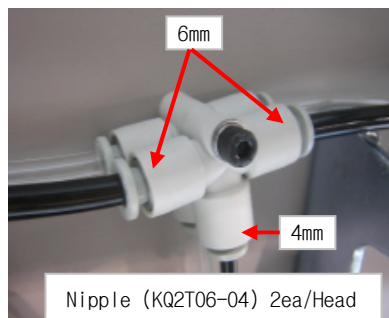

Air Error Check Cable

Control B/D
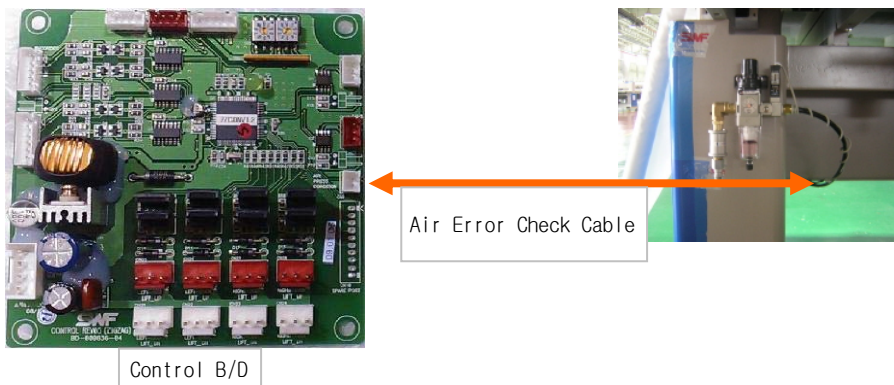
5 Check Air Connection

(1) Check 8mm Hose

(2) Check Nipple (KQ2T06-04, 2EA) in each head.

  1) Quantity of Nipple is two for each device.

  2) Quantity of Nipple depends on Option type.
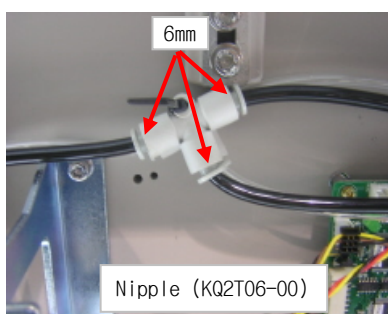

6mm

4mm

Nipple (KQ2T06-04) 2ea/Head

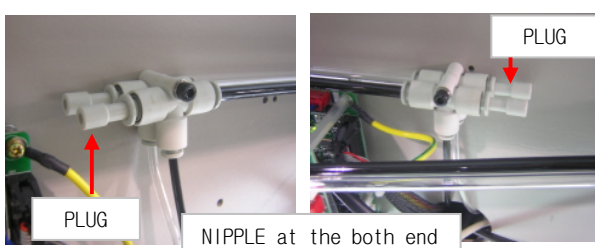(3) Check Nipple (KQ2T06-00, 2EA) in the middle of Beam (KQ2T06-00).

  1) Nipple(KQ2T06-00, 2EA) functions to supply air to Nipple (KQ2T06-04) from Air Sol.

   Nipple(KQ2T06-00) : 2EA / Option
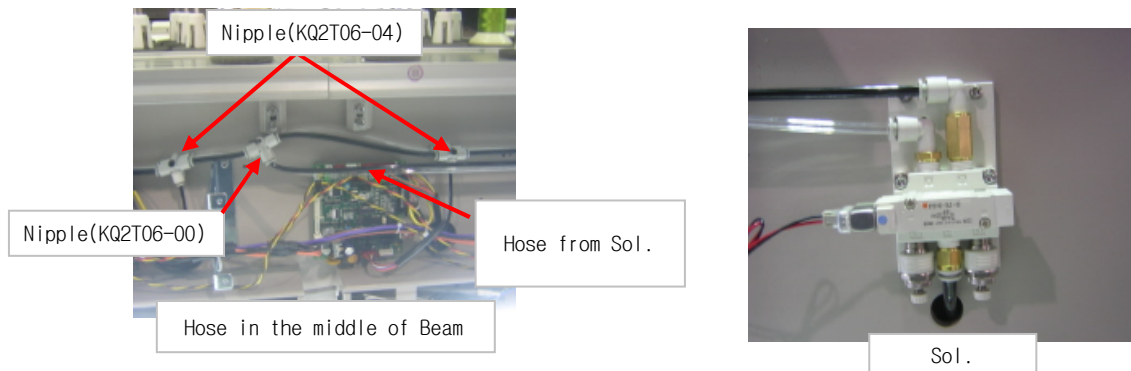
  ※ Quantity of Nipple(KQ2T06-00) depends on option type and alternative function.

6mm

Nipple (KQ2T06-00)

(4) Check whether Nipple(KQ2T06-04) blocks with Plug in First and Last Head.

PLUG

PLUG

NIPPLE at the both end

(5) Chck Hose Connection

  1) Check Hose(6mm, Transparent & Black) in Nipple (KQ2T06-00) from Sol.

  2) Check Hose between Nipple (KQ2T06-04) all heads.

    Check Hose (6mm, Transparent & Black) between Nipple (KQ2T06-00) and Nipple (KQ2T06-04)

    in the middle of beam.

Nipple(KQ2T06-04)

Nipple(KQ2T06-00)

Hose from Sol.

Hose in the middle of Beam

Sol.

※ Hose Connection depends on option type and alternatvie function.

  3) Check the hose (4mm, Transparent & Black) to Nipple (KQ2T06-04) from Device.

Air Lock

Transparent Hose

Transparnet Hose

Black Hose

Nipple(KQ2T06-04)

Hose 4mm
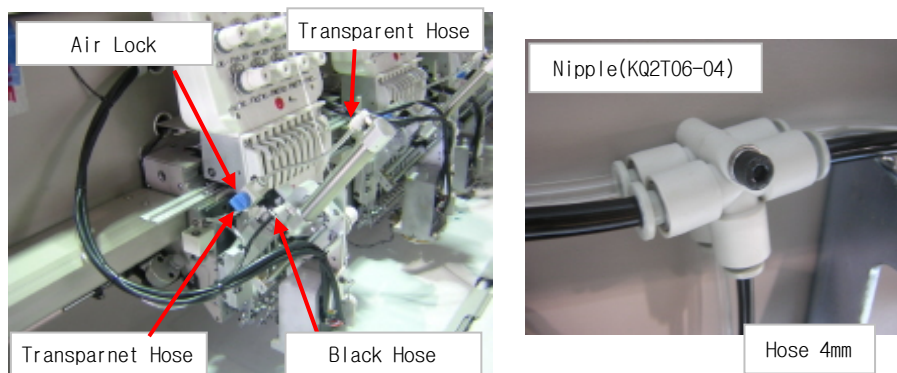
6 Check ZD Needle Bar

(1) ZD use exclusive ZD needle Bar.

  1) The procedure to exchage needle bar is the same as normal needle bar.

  ※ But, ZD doesn't use Presser Foot, so don't need related parts (Presser Foot Holder etc.).

ZD doesn't use Presser Foot.
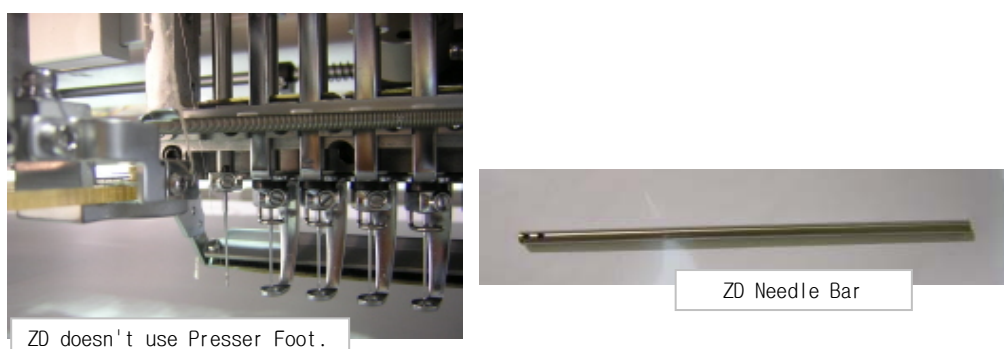
ZD Needle Bar

2) Check the Needle drop Point in Main Angle 201 degree.
   ※ Use Normal Jig (17.7mm) and ZD Jig (11.8mm) together like picture.

   ※ ZD Jig (5mm) is for old type of ZD which is not avaiable for ZD Height.
   - Old type of ZD use different needle bar & needle from current one.
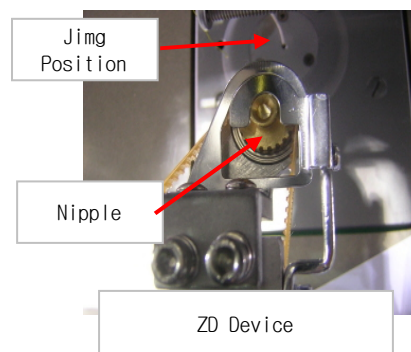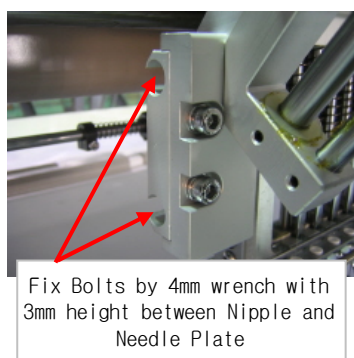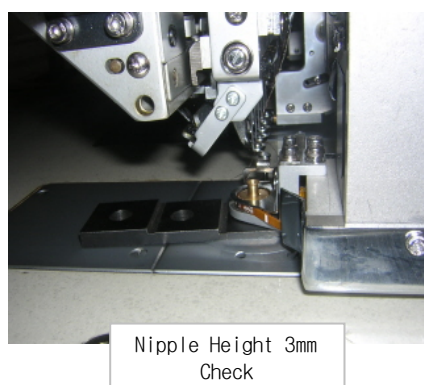

11.8mm ZD Jig

17.7mm Normal Jig

11.8mm

5mm

Current (Height can be movable)

Height Control
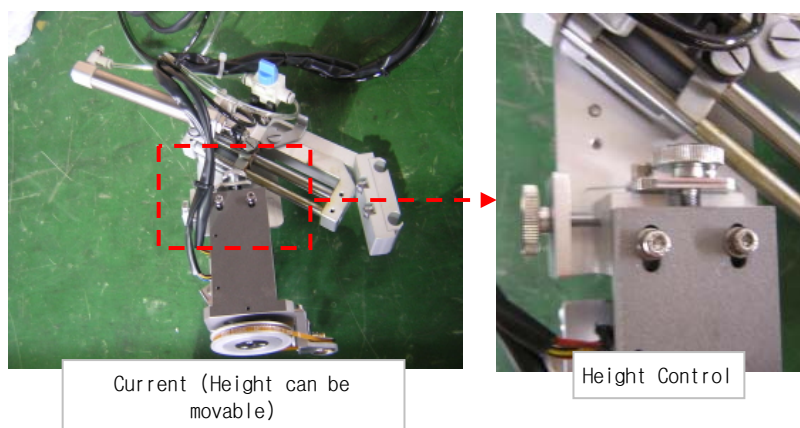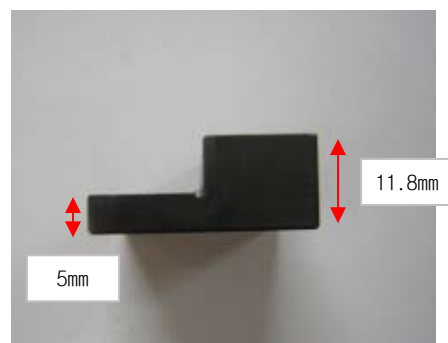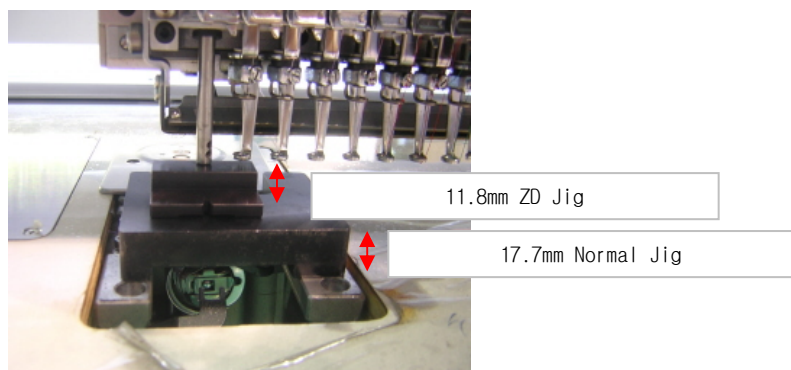
1. Old Type (~2008.02.01)
2. Old Type Needle Bar (Needle BQ#14)

3) Check Upper Dead Point in 0 degree.

7 Check ZD10 Device

(1) Check the Gap between Nipple and needle Plate as 3mm.
※ If it is wrong, set it again.

Nipple Height 3mm Check

Fix Bolts by 4mm wrench with 3mm height between Nipple and Needle Plate

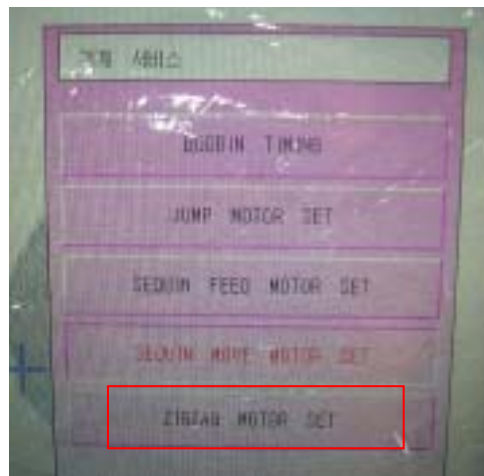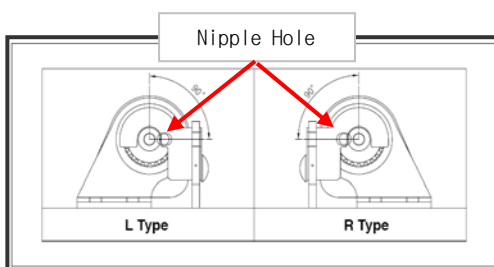Jimg Position

Nipple

ZD Device

(2) Check Needle Bar Position and if it is wrong, set it again.
   ※ Refer to ZD Manual for details.

Needle Positon

Front/Rear control

Loosen Bolts and adjust.

Left&Right control (Loosen Bolts and adjust.)
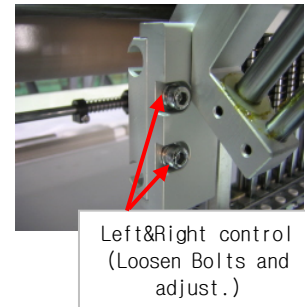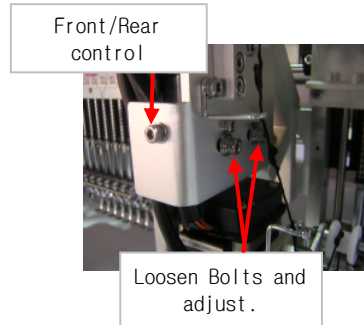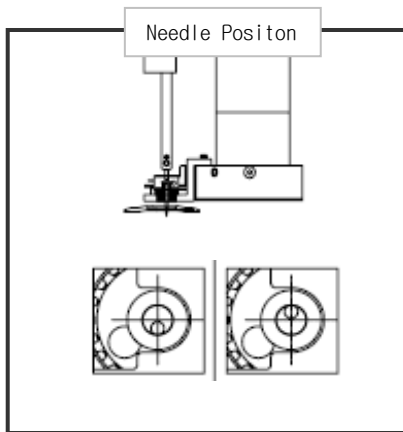
(3) Check Nipple direction whether it matches to cord thread supply hole.
   If it is wrong, set it again.

Nipple Hole

L Type   R Type

1) Select Zigzag Motor Set in "Machine -> Machine Service".

2) if push start "Zigzag Motor Set", Motor become off.

3) In the condition of Motor Off, Loosen the Pulley screws so that Pulley can not be effected by Motor.
   - Use 2.5mm wrench for screws.

Pulley Screws
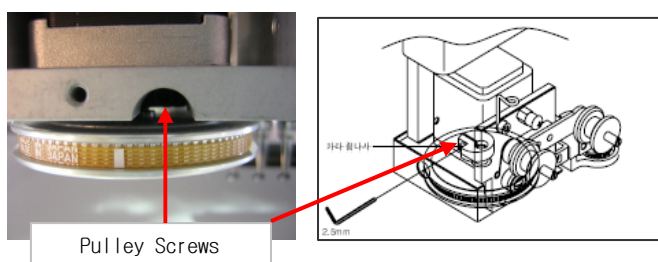
4) After loosening screws, Push "Stop" button to power Motor on and then make nipple hole
   to the direction of cord thread and fix the screws.
   - L type 3 0'clock direction, R type 9 0'clock direction

Nipple Hole

L Type   R Type
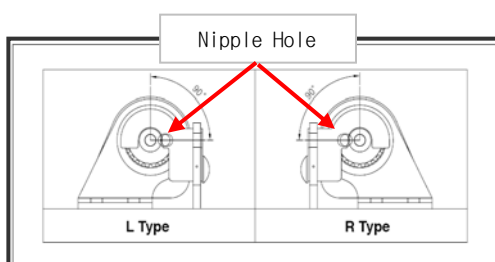
8 Embroidery Test

※ Run embroidery test using the fabric and thread provided by a client and test design.

   Check the machine status.

※ Run a test using the design provided by a client.

Write productivity result report. Attach original design and the work sample to the report.

※When running an embroidery test, train the staff and administrator from a client company on machine control and maintenance.

※Refer to, and follow directions in, installation manual and installation check list.

I. ZD10 Check List

Country		M/C Type	
Agent		Serial No.	
Customer		Version Date	
Installation Date		Installation Technician	

Order	Items to be Checked
1	**Check ZD10 Parts**
	1. ZD10 Device (　　　　　　　　)　2. Boards (　　　　　　　　　　) 3. Cable (　　　　　　　　　)　4. Air Parts (　　　　　　　　　　) 5. ZD10 Needle & Needle bar (　　　)　6. Jig (　　　　　　　　　)
2	**Check machine installation and exterior conditions**
	(1) SMPS Quantity － Check proper quantity of SMPS.　　　　　(　　　　　　　　　　)
3	**Check Boards**
	(1) Check Control Board － Check whether it is avaible for option type.　(　　　　　　　　　) (2) Check Jumper in last sub control board　(　　　　　　　　)
4	**Check Cable & Air Parts**
	(1) Check Power Cable Condition.　　　(　　　　　　　　) (2) Check Encoder Junction cable and Joint board connection. (　　　　　　) (3) Check CAN1 & CAN2 and CAN Junction connection. (4) Check ZD10 Device Motor Cable.　(　　　　　　) (5) Check Sol. Power Cable Connection. (　　　　　　) (6) Check Air Error Check Cable Connection. (　　　　　　) (7) Check Hose connection, 8mm, 6mm (Transparent,Black), 4mm(Transparent,Black). ((8) Check the Pulg in first & last Head. (　　　　　　)

　　　　(주)SUNSTAR SWF CS Center

5	Check ZD10 needle bar (Pass : O, Fail : X)

(1) Check Needle Bar Upper / Lower dead point.

① Needle bar Upper & Lower dead point

Head	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Condition																				

② ZD10 Nipple Height Setting (3mm).

Head	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Condition																				

③ ZD10 Needle Bar position.

Head	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Condition																				

④ ZD10 Motor synchronization

Head	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Condition																				

6	Embroidery TEST.

※ Run embroidery test using the fabric and thread provided by a client and test design.
  Check the machine status.

※ Run a test using the design provided by a client.
  Write productivity result report. Attach original design and the work sample to the report.

※When running an embroidery test, train the staff and administrator from a client company
  on machine control and maintenance.